

WHAT IS CLAIMED IS:

1. A method, performed by a wrapper, for enabling a web application to communicate with a telephony device, comprising the steps of:

providing a communication channel between the web application and the telephony device; and

translating data transferred between the web application and the telephony device.

2. The method of claim 1, wherein the step of providing a communication channel further includes:

providing a control channel between the web application and the telephony device.

3. The method of claim 2, wherein the step of providing a communication channel further includes:

providing a media channel between the web application and the telephony device.

4. The method of claim 1, wherein the step of translating data further includes:

translating control data transferred between the web application and the telephony device.

5. The method of claim 4, wherein the step of translating data further includes:

translating media data transferred between the web application and the telephony device.

6. The method of claim 1, further comprising:  
using a telephony device abstraction.

7. The method of claim 6, wherein the step of using a telephony device abstraction further includes:

using an abstraction for a class of telephony devices.

8. The method of claim 1, further comprising:  
routing data transferred between the telephony device and the web application;  
and  
arbitrating access to the telephony device.

9. The method of claim 1, further comprising:  
providing a service plugin.

10. The method of claim 9, wherein the service plugin is a web browser.

11. The method of claim 9, further comprising:

providing an execution environment for the service plugin.

12. The method of claim 1, further comprising:

mapping the data to a telephony device resource.

13. The method of claim 1, wherein the step of translating comprises:

converting web application data to a telephony device data format; and

converting telephony device data to a wrapper API data format.

14. The method of claim 1, wherein the web application is another wrapper.

15. An apparatus for enabling a web application to communicate with a telephony device comprising:

means for providing a communication channel between the web application and the telephony device; and

means for translating data transferred between the web application and the telephony device.

16. The apparatus of claim 15, wherein the means for providing a communication channel further includes:

means for providing a control channel between the web application and the telephony device.

17. The apparatus of claim 16, wherein the means for providing a communication channel further includes:

means for providing a media channel between the web application and the telephony device.

18. The apparatus of claim 15, wherein the means for translating data further includes:

means for translating control data transferred between the web application and the telephony device.

19. The apparatus of claim 18, wherein the means for translating data further includes:

means for translating media data transferred between the web application and the telephony device.

20. The apparatus of claim 15, further comprising:  
means for using a telephony device abstraction.

21. The apparatus of claim 20, wherein the means for using a telephony device abstraction further includes:

means for using an abstraction for a class of telephony devices.

22. The apparatus of claim 15, further comprising:

means for routing data transferred between the telephony device and the web application; and

means for arbitrating access to the telephony device.

23. The apparatus of claim 15, further comprising:

means for providing a service plugin.

24. The apparatus of claim 23, wherein the service plugin is a web browser.

25. The apparatus of claim 23, further comprising:

means for providing an execution environment for the service plugin.

26. The apparatus of claim 15, further comprising:

means for mapping the data to a telephony device resource.

27. The apparatus of claim 15, wherein the means for translating comprises:

means for converting web application data to a telephony device data format; and

means for converting telephony device data to a wrapper API data format.

28. The apparatus of claim 15, wherein the web application is another wrapper.

29. A computer program product comprising:

a computer usable medium having computer readable code embodied therein for enabling a web application to communicate with a telephony device including:

computer readable code for causing a computer to provide a communication channel between the web application and the telephony device; and

computer readable code for causing a computer to translate data transferred between the web application and the telephony device.

30. The computer program product of claim 29, wherein the computer readable code for causing a computer to provide a communication channel further includes:

computer readable code for causing a computer to provide a control channel between the web application and the telephony device.

31. The computer program product of claim 30, wherein the computer readable code for causing a computer to provide a communication channel further includes:

computer readable code for causing a computer to provide a media channel between the web application and the telephony device.

32. The computer program product of claim 29, wherein the computer readable code for causing a computer to translating data further includes:

computer readable code for causing a computer to translate control data transferred between the web application and the telephony device.

33. The computer program product of claim 32, wherein the computer readable code for causing a computer to translating data further includes:

computer readable code for causing a computer to translate media data transferred between the web application and the telephony device.

34. The computer program product of claim 29, further comprising:

computer readable code for causing a computer to use a telephony device abstraction.

35. The computer program product of claim 34, wherein the computer readable code for causing a computer to using a telephony device abstraction further includes:

computer readable code for causing a computer to use an abstraction for a class of telephony devices.

36. The computer program product of claim 29, further comprising:

computer readable code for causing a computer to route data transferred between the telephony device and the web application; and

computer readable code for causing a computer to arbitrate access to the telephony device.

37. The computer program product of claim 29, further comprising:

computer readable code for causing a computer to provide a service plugin.

38. The computer program product of claim 37, wherein the service plugin is a web browser.

39. The computer program product of claim 37, further comprising:  
computer readable code for causing a computer to provide an execution environment for the service plugin.

40. The computer program product of claim 29, further comprising:  
computer readable code for causing a computer to map the data to a telephony device resource.

41. The computer program product of claim 29, wherein the computer readable code for causing a computer to translating comprises:  
computer readable code for causing a computer to convert web application data to a telephony device data format; and  
computer readable code for causing a computer to convert telephony device data to a wrapper API data format.

42. The computer program product of claim 29, wherein the web application is another wrapper.



43. An apparatus for enabling a web application to communicate with a telephony device comprising:

a digital computer containing a communications circuit for providing a communication channel between the web application and the telephony device; and  
a circuit for translating data transferred between the web application and the telephony device.

44. The apparatus of claim 43, wherein the circuit for providing a communication channel further includes:

circuit for providing a control channel between the web application and the telephony device.

45. The apparatus of claim 44, wherein the circuit for providing a communication channel further includes:

circuit for providing a media channel between the web application and the telephony device.

46. The apparatus of claim 43, wherein the circuit for translating data further includes:

circuit for translating control data transferred between the web application and the telephony device.

47. The apparatus of claim 46, wherein the circuit for translating data further includes:

circuit for translating media data transferred between the web application and the telephony device.

48. The apparatus of claim 43, further comprising:

circuit for using a telephony device abstraction.

49. The apparatus of claim 48, wherein the circuit for using a telephony device abstraction further includes:

circuit for using an abstraction for a class of telephony devices.

50. The apparatus of claim 43, further comprising:

circuit for routing data transferred between the telephony device and the web application; and

circuit for arbitrating access to the telephony device.

51. The apparatus of claim 43, further comprising:

circuit for providing a service plugin.

52. The apparatus of claim 51, wherein the service plugin is a web browser.

53. The apparatus of claim 51, further comprising:

circuit for providing an execution environment for the service plugin.

54. The apparatus of claim 43, further comprising:

circuit for mapping the data to a telephony device resource.

55. The apparatus of claim 43, wherein the circuit for translating comprises:

circuit for converting web application data to a telephony device data format; and

circuit for converting telephony device data to a wrapper API data format.

56. The apparatus of claim 43, wherein the web application is another

wrapper.

57. A system for web-enabling a telephony device comprising:

a telephony device;

a web application; and

a wrapper for providing a communication channel between the web application

and the telephony device and for translating data transferred between the web

application and the telephony device.

58. The system of claim 57, wherein the telephony device comprises:

the wrapper.

59. The system of claim 57, further comprising:

a terminal proxy server comprising the wrapper.

60. The system of claim 57, further comprising:

a user interface device for controlling the web application.

61. The system of claim 60, wherein the user interface device comprises:

a personal computer with a web browser.

62. The system of claim 57, further comprising:

a second telephony device, and

wherein the web application is a second wrapper.

63. The system of claim 57, further comprising:

a web server comprising the web application.